

SMSgt (Ret.) Rob Rosenberger

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EO 12958: 13 JAN 1975 My accession: 12 OCT 2021 Initials: TRG

Title: B-47 ENDURANCE/DISTANCE RECORD FLIGHT, A/C
43D BOMB WING/CC COL. DAVID A. BIRCHINALL

Date(s): 17-19 NOVEMBER 1954

Call: K-WG-43-SU-RE

Volume: N/A

☐ ALL ☒ Selected Papers ☐ Except

FRONT MATTER; PART I, "TESTIMONIALS" IAW UCMJ ART. 31

PART II, "AIRCRAFT INSPECTION + MAINTENANCE RECORDS"

PART III, "REPORTS ON FLIGHT OF B-47 52-062"

1. WEEKLY ACTIVITY REPORT.

2. REPORT ON FLIGHT, SUBMITTED BY: S. D. RUSSELL.

3. POSTFLIGHT INSPECTION OF SYSTEM PRESSURES ON B47 #062.

4. AIRCRAFT FLIGHT REPORT.

PART 4, NAVIGATION RECORDS

①

TIME	WIND	TH	TAS	AIR DIST	GRND DIST	
12:30						T.O. SIDI
12:48			390	117	117	CLIMB OVER SIDI SLIMANE
16:40			423	1640	1640	SIDI TO KSAR-ES-SOUK TO MARRAKECH TO SIDI
17:00			430	143	140	DESCENT TO REFUEL ALTITUDE
17:37			250	154	150	REFUEL
17:55			410	123	120	LEVEL OFF OPT
01:09			412	2530	2564	OPTIMUM TO FAIRFORD + RETURN
01:30			430	150	154	DESCENT TO REFUELING ALTITUDE
01:51			240	85	88	REFUEL
02:00			412	62	63	LEVEL OFF OPT
05:15			424	1375	1375	ORBIT SIDI TO CASA TO MARRAKECH
05:38			428	164	168	DESCENT TO REFUEL ALT
06:12			260	147	156	END OF REFUEL
06:35			410	157	169	LEVEL OFF
10:15			422	1540	1435	OVER FAIRFORD
10:33			428	128	135	DESCENT TO REFUEL
10:56			268	103	112	END REFUELING
11:10			410	96	99	LEVEL OFF
14:34			422	1431	1445	OVER SIDI OPT
15:57			425	588	588	SIDI TO CASA + RETURN
16:12			429	107	107	DESCENT TO REFUEL
16:35			280	107	107	END REFUELING
16:45			412	68	68	LEVEL OFF OPT
21:10			425	1875	1875	SIDI TO CASA TO MARRAKECH TO SIDI
21:29			430	136	136	DESCENT TO REFUEL
21:56			265	119	119	REFUEL
22:06			411	68	68	LEVEL OFF OPT
				13213	13198	

(2)

TIME	WIND	TH	TAS	AIR DIST.	GRAND DIST.	
0308			425	2137	2137	2 NITEX TO BIZERTE + RETURN TO SIDI
0328			427	144	146	DESCENT TO REFUEL
0354			275	119	119	REFUEL @
0404			412	69	69	LEVEL OFF OPT.
0630			428	1040	1040	SIDI TO CASA TO SIDI ORBIT
0649			431	136	141	DESCENT TO REFUEL
0717			275	129	136	REFUEL
0733			420	112	115	LEVEL OFF OPT
1037			420	1022	1018	TO FAIRFORD
1140			410	431	431	FAIRFORD AREA
1153			240	52	52	PENETRATION & LAND
				13213	13198	
				5391	5404	
				18604	18602	

FUEL TRANSFERRED

1-	53,880
2-	52,400
3-	57,080
4-	53,650
5-	47,400
6-	50,000
7-	57,150
8-	44,930
9-	10,300
	426,790 # TOTAL TRANSFERRED
	85,560 # T.O. FUEL WT.
	512,290
	38,500 # CUT ENGINE FUEL
	473,790 # FUEL USED

FLIGHT RECORD

T. O.		DATE		HEADINGS						POSITION		AND/OR		GENERAL OBSERVATIONS		IAS	CAS (K)	PRESS ALT.	TEMP. °C.	TAS	RUN		AIR- MILES	G. S.	TO RUN		ETA
TIME	T. C.	W/V USED AND/OR DRIFT	TH.	VAR.	MH.	DEV.	CH.	NAVIGATIONAL	OBSERVATION												DIST.	TIME			DIST.	TIME	
12:30									Take off + climb 70 35m over Sidi Slimane											390							
12:32	148	130/40	148	+10	158			over Sidi Slimane												420							
13:35		N 50° W 02°						on Bombier Rnoa (Ksar Es Souk)												420							
15:07	264		264	+10	274			completed (4 bombs)	50. for	PARRECH										"							
15:35								checked in to	MARKER 1000	PLOT 36m										424							
16:25			028	+11	049			22-04 N	POPT PARRECH	"										425							
17:00		12 N 14 E						over Sidi Slimane	(making Rnoa with her)	18m										440							
17:12			095		140			34 08 N 05 26 W	(508 000 V) (508 000 V)	"										250							
17:15								contacted 1 1/2 min + broke away																			
17:18								contact																			
17:28								Broke away																			
17:29								contact																			
17:36 1/2								contact																			
17:56	075	277 52	075	+7	080			34-22 N 03-20 W	break away End R.F. (53 080 165)	"										410							
18:18	075	-2	070	+7	080			34-54 N 00-38 W												420							
18:32	075	-7 300/65	070	+6	080			35-36 N 02-43 E												420							
19:09	001	-8 360/24	053	+6	059			36-00 N 05-00 W	240 570 1908 1510 MINORCA											415							
19:52	030	360/24	032	+7	039			39-48 N 05-04 E	19142 + 500 NM 1510 of night											412							
20:46	032	043/57 +3	034	+5	039			44-20 N 04-45 E	19142 + 500 NM 1510 of night											345							
21:06		023/45	032		039			48-59 W 00-35 E												407							
21:28	150	-8	042	+8	150			over 150 of night												410							
21:51	154	-4	150	+7	157			over Sidi Slimane (50 000 N) 44 00 N 00-40 E	(50 000 N) (50 000 N) (50 000 N)										37m								
																				420							

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FLIGHT RECORD

T. O.		DATE		HEADINGS					POSITION		AND/OR		GENERAL OBSERVATIONS		IAS	CAS (K)	PRESS ALT.	TEMP. °C.	TAS	RUN		AIR MILES	G. S.	TO RUN		ETA
TIME	T. C.		W/V USED AND/OR DRIFT	TH.	VAR.	MH.	DEV.	CH.	NAVIGATIONAL	OBSERVATION										DIST.	TIME			DIST.	TIME	
16:35	-	21:00								Holding in the Sidi Area					20.	16:45	32m		425							
21:00										Picked up Tracker Beacon at 115 nm									425							
21:29										closed to 1/2 nm. Rendez Complete									420							
21:37						276				contact	Tracker # 613						18m		240							
21:56						276				Break away	50,000 lbs received						18m		290							
21:57	to	02:38								Two night Cel logs measured AB to Bigote							350		425							
03:08			295/30							Picked up Tracker Beacon at 110 nm							18m	-10								
03:32			295/30							closed to 1/2 nm. Rendez complete							18m	427	255							
03:32						095				contact									250							
03:39										Break away									260							
03:40						128				contact									"							
03:46						268				Break away									275							
03:48						272				contact									280							
03:50										Break away																
03:51						270				contact									280							
03:54										Break away	(57150 lbs received)															
03:54										Break away									428							
03:54	TO	06:30								Remaining in Sidi Slimane Area									427							
06:30										Starting Rendez.									429							
06:35										Picked up signal at 85 nm																
06:49			280/35							closed to 1/2 nm																
06:53						060				contact	Ship # 613						18m		250							
07:09										Break away	44930 lbs Rec.						18m		280							

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NO PHOTOS

OK

NAVIGATION EVALUATION REPORT		FILE DATA (Check applicable blocks)				<input checked="" type="checkbox"/> COMPLETE <input type="checkbox"/> INCOMPLETE		<input checked="" type="checkbox"/> SELECT, LEAD OR COMBAT READY CREWS <input type="checkbox"/> NON-READY CREWS	
		<input type="checkbox"/> DAY CELESTIAL <input checked="" type="checkbox"/> NIGHT CELESTIAL <input type="checkbox"/> GRID				<input checked="" type="checkbox"/> RECORD <input checked="" type="checkbox"/> PRACTICE			
CREW MEMBERS (Last name and initials)									
NAVIGATOR <i>McCoy F.A.</i>			AIRCRAFT COMMANDER <i>Earhart, P.H.</i>			RADAR OBSERVER <i>McCoy F.A.</i>			
DEPARTURE POINT <i>33-16N 07-30W</i>			TERMINAL POINT <i>37-16N 09-52E</i>			FLIGHT TIME DEPARTURE (GMT) <i>22 20</i> ETA (GMT) <i>00:21</i>			
(1-3) WG <i>43</i>	(4-6) SQUADRON <i>65</i>	(7-11) CREW NUMBER <i>R3586</i>	(12-15) DATE <i>18 11</i>	(16) AIRCRAFT TYPE <i>7</i>	(17-19) AIRCRAFT NUMBER <i>062</i>				
WEATHER CONDITIONS AFFECTING NAVIGATION MISSION (Check applicable blocks)			(20) OVER-CAST <i>1</i>	(21) UNDER-CAST <i>1</i> ✓	(22) TURBULENCE <i>1</i>	(23-24) ALTITUDE FLOWN (thousands of feet) <i>33</i>		(25) FLIGHT CONTROL (Check applicable block)	
			<input type="checkbox"/> 1 MANUAL <input checked="" type="checkbox"/> 2 AUTO PILOT						
DID NOT INTERFERE WITH OBSERVATION			<i>1</i>	<i>1</i> ✓	<i>1</i>	FINAL WIND USED (26-28) DIRECTION <i>304</i> (29-31) VELOCITY (Knots) <i>52</i>			
SERIOUSLY INTERFERED WITH OBSERVATION			<i>2</i>	<i>2</i>	<i>2</i>				
MADE KEY OBSERVATIONS IMPOSSIBLE			<i>3</i>	<i>3</i>	<i>3</i>	FINAL CORRECTIONS AND COURSE (33-36) DEGREES RIGHT OR LEFT (Indicate) <i>000</i> (37-39) TRUE HEADING <i>070</i>			
(32) FINAL WIND DETERMINED BY (Check applicable block)									
1	✓	CELESTIAL ONLY	5	LORAN		(40-42) CALCULATED TRACK <i>075</i>		(43-44) FINAL CORRECTION GIVEN (minutes before ETA)	
2		CELESTIAL AND BOMB-SIGHT OR DRIFTMETER	6	RADAR DOPPLER					
3		CELESTIAL AND BELLAMY	7	RADAR - OTHER		(45) TYPE OF MISSION (Check applicable block)			
4		CELESTIAL AND METRO	8	OTHER (Specify)					
						<input checked="" type="checkbox"/> 1 ETA DETERMINED ENROUTE <input type="checkbox"/> 2 ETA PREDETERMINED			
(46-48) PLANNED FINAL TRACK <i>074</i>			(49) PLANNED TRACK (Check applicable block)			(50-52) TOTAL LENGTH OF NAVIGATION LEG (Tens of miles) <i>91</i>			
			<input checked="" type="checkbox"/> 1 STRAIGHT LEG <input type="checkbox"/> 2 DOG LEG						
TYPE OF NAVIGATION (Circle appropriate number)									
(53)	1	DAY CELESTIAL	(2)	NIGHT CELESTIAL	3	GRID			
(54)		NO. LOPS		NO. OF SINGLE LOPS		NO. HEADING CHECKS			
(55)		NO. 2 BODY FIXES		NO. OF 2 STAR FIXES		NO. CELESTIAL FIXES			
(56)		NO. OF FIXES (SUN-PLOP)	<i>3</i>	NO. OF 3 STAR FIXES		NO. CELESTIAL GRID WINDS			
(57)		NO. OF MPP'S	<i>2</i>	NO. OF CELESTIAL WINDS					
(58)		BELLAMY DRIFTS OR PLOPS	<i>1</i>	NO. OF TH ASTRO CHECKS					
(59)		BOMBSIGHT DRIFTS							
(60)		DRIFTMETER DRIFTS							
(61)		NO. TH ASTRO CHECKS							
NAME, GRADE, AND AFSN OF NAVIGATOR <i>McCoy MAJOR AD-68610N</i>					SIGNATURE OF NAVIGATOR <i>F.A. McCoy</i>				

(62) REASON FOR FAILURE TO COMPLETE BRIEFED NAVIGATION LEG (Check applicable block)				(63) REASON FOR FAILURE TO OBTAIN SCOPE PHOTO (Check applicable block)			
1	<input checked="" type="checkbox"/>	NO FAILURE		1	<input checked="" type="checkbox"/>	NO FAILURE	
2		WEATHER		2		RADAR FAILURE	
3		AIRCRAFT FAILURE		3	<input checked="" type="checkbox"/>	CAMERA FAILURE	
4		EQUIPMENT FAILURE (Specify)		4		FILM PROCESSING DEFECTIVE	
5		PERSONNEL ERROR		5		OPERATOR ERROR	
6		OTHER (Specify)		6		TOO FAR OFF TO SCORE	
				7		AIRCRAFT NOT EQUIPPED WITH SCOPE CAMERA	
				8		OTHER (Specify)	
(64) SCORING METHOD (Check applicable block)							
1	<input checked="" type="checkbox"/>	RADAR SCOPE PHOTO AT ETA			6		LORAN
2		DIRECT PHOTO AT ETA			7		GROUND RADAR (ADC, RBS, etc)
3	<input checked="" type="checkbox"/>	RADAR FIX (S7 R 13 CE 15)			8		INDEPENDENT OBSERVER
4		PILOT FIX (Visual)			9		OTHER (Specify)
5		D. R. FROM SCOPE PHOTO OTHER THAN AT ETA					
RANGE ERROR AND COURSE ERROR (Check applicable blocks and indicate nautical miles)							
(65)	OVER	(66-67) NAUTICAL MILES	(68)	RIGHT	(69-70) NAUTICAL MILES	(71-73) CIRCULAR ERROR (Nautical miles)	
(65)	SHORT	(66-67) NAUTICAL MILES	(68)	LEFT	(69-70) NAUTICAL MILES	15.0	
(74) MISSION CLASSIFICATION (Check applicable block)							
1	<input checked="" type="checkbox"/>	ROUTINE TRAINING MISSION			4		MISSION FLOWN UNDER THE SUPERVISION OF 3908TH STRATEGIC EVALUATION SQUADRON
2		SAC EVALUATION MISSION			5		OTHER (To be used as directed by Headquarters SAC only)
3		SAC NAVIGATIONAL COMPETITION MISSION					
NAME, GRADE, AND AFSN OF SCORING OFFICER				SIGNATURE OF SCORING OFFICER			
(POR) F. A. MCCOY, MAJ.				John J. Naughton			
REPLOT ERROR							
ERROR OF FIXES (Indicate nautical miles)					TOTAL COMPUTATION AND PLOTING ERROR (NM)		DISTANCE BETWEEN REPLOT AND SCORED POSITIONS AT ETA (NM)
1	2	3	4	5			
REMARKS No radar film D. Thomas Tgt Unit.							
POSTED LEDGER 23 Nov POSTED BOARD 23 Nov POSTED T-12 SENT TO SQ 23 Nov							
NAME, GRADE, AND AFSN OF REPLOT OBSERVER				SIGNATURE OF REPLOT OBSERVER			
NAME, GRADE, AND AFSN OF SQUADRON OBSERVER OR AUTHORIZED REPRESENTATIVE				SIGNATURE OF SQUADRON OBSERVER OR AUTHORIZED REPRESENTATIVE			
EDWARDS, JAMES T. MAJ. 6646-A				James T. Edwards			

NO PHOTO'S

OK

NAVIGATION EVALUATION REPORT				FILE DATA (Check applicable blocks)							
				<input type="checkbox"/> DAY CELESTIAL		<input checked="" type="checkbox"/> RECORD		<input checked="" type="checkbox"/> COMPLETE		<input type="checkbox"/> SELECT, LEAD OR COMBAT READY CREWS	
				<input checked="" type="checkbox"/> NIGHT CELESTIAL		<input checked="" type="checkbox"/> PRACTICE		<input type="checkbox"/> INCOMPLETE		<input type="checkbox"/> NON-READY CREWS	
				<input type="checkbox"/> GRID							
CREW MEMBERS (Last name and initials)											
NAVIGATOR <i>McCoy, F.A.</i>				AIRCRAFT COMMANDER <i>Earhart, P.H.</i>				RADAR OBSERVER <i>McCoy, F.A.</i>			
DEPARTURE POINT <i>37-21N 09-45 E</i>				TERMINAL POINT <i>33-16N 07-33W</i>				FLIGHT TIME DEPARTURE (GMT) <i>00:30</i> ETA (GMT) <i>02:38</i>			
(1-3) WG <i>43</i>	(4-6) SQUADRON <i>65</i>	(7-11) CREW NUMBER <i>R3580</i>	(12-15) DATE <i>1911</i>	(16) AIRCRAFT TYPE <i>7</i>	(17-19) AIRCRAFT NUMBER <i>062</i>						
WEATHER CONDITIONS AFFECTING NAVIGATION MISSION (Check applicable blocks)				(20) OVER-CAST <i>1</i>	(21) UNDER-CAST <i>1</i>	(22) TURBULENCE <i>1</i>	(23-24) ALTITUDE FLOWN (thousands of feet) <i>35</i>		(25) FLIGHT CONTROL (Check applicable block) <input type="checkbox"/> 1 MANUAL <input checked="" type="checkbox"/> 2 AUTO PILOT		
				DID NOT INTERFERE WITH OBSERVATION							
SERIOUSLY INTERFERED WITH OBSERVATION				<i>2</i>	<i>2</i>	<i>2</i>	FINAL WIND USED (26-28) DIRECTION <i>333</i> (29-31) VELOCITY (Knots) <i>36</i>				
MADE KEY OBSERVATIONS IMPOSSIBLE				<i>3</i>	<i>3</i>	<i>3</i>	FINAL CORRECTIONS AND COURSE (33-36) DEGREES RIGHT OR LEFT (Indicate) <i>01R</i> (37-39) TRUE HEADING <i>258</i>				
(32) FINAL WIND DETERMINED BY (Check applicable block)								(40-42) CALCULATED TRACK <i>253</i>			
1	CELESTIAL ONLY	5	LORAN	(43-44) FINAL CORRECTION GIVEN (minutes before ETA) <i>18</i>							
2	CELESTIAL AND BOMB-SIGHT OR DRIFTMETER	6	RADAR DOPPLER	(45) TYPE OF MISSION (Check applicable block)							
3	CELESTIAL AND BELLAMY	7	RADAR - OTHER	<input checked="" type="checkbox"/> 1 ETA DETERMINED ENROUTE <input type="checkbox"/> 2 ETA PREDETERMINED							
4	CELESTIAL AND METRO	8	OTHER (Specify)								
(46-48) PLANNED FINAL TRACK <i>251</i>				(49) PLANNED TRACK (Check applicable block) <input checked="" type="checkbox"/> 1 STRAIGHT LEG <input type="checkbox"/> 2 DOG LEG				(50-52) TOTAL LENGTH OF NAVIGATION LEG (Tens of miles) <i>91</i>			
TYPE OF NAVIGATION (Circle appropriate number)											
(53)	1	DAY CELESTIAL	<u>2</u>	NIGHT CELESTIAL	3	GRID					
(54)		NO. LOPS		NO. OF SINGLE LOPS		NO. HEADING CHECKS					
(55)		NO. 2 BODY FIXES		NO. OF 2 STAR FIXES		NO. CELESTIAL FIXES					
(56)		NO. OF FIXES (SUN-PLOP)	<i>3</i>	NO. OF 3 STAR FIXES		NO. CELESTIAL GRID WINDS					
(57)		NO. OF MPP'S	<i>2</i>	NO. OF CELESTIAL WINDS							
(58)		BELLAMY DRIFTS OR PLOPS	<i>1</i>	NO. OF TH ASTRO CHECKS							
(59)		BOMBSIGHT DRIFTS									
(60)		DRIFTMETER DRIFTS									
(61)		NO. TH ASTRO CHECKS									
NAME, GRADE, AND AFSN OF NAVIGATOR <i>McCoy MAJOR AO-686100</i>						SIGNATURE OF NAVIGATOR <i>F.A. McCoy</i>					

(62) REASON FOR FAILURE TO COMPLETE BRIEFED NAVIGATION LEG (Check applicable block)				(63) REASON FOR FAILURE TO OBTAIN SCOPE PHOTO (Check applicable block)			
1	<input checked="" type="checkbox"/>	NO FAILURE		1	<input checked="" type="checkbox"/>	NO FAILURE	
2		WEATHER		2		RADAR FAILURE	
3		AIRCRAFT FAILURE		3	<input checked="" type="checkbox"/>	CAMERA FAILURE	
4		EQUIPMENT FAILURE (Specify)		4		FILM PROCESSING DEFECTIVE	
5		PERSONNEL ERROR		5		OPERATOR ERROR	
6		OTHER (Specify)		6		TOO FAR OFF TO SCORE	
				7		AIRCRAFT NOT EQUIPPED WITH SCOPE CAMERA	
				8		OTHER (Specify)	
(64) SCORING METHOD (Check applicable block)							
1	<input checked="" type="checkbox"/>	RADAR SCOPE PHOTO AT ETA		6		LORAN	
2		DIRECT PHOTO AT ETA		7		GROUND RADAR (ADC, RBS, etc)	
3	<input checked="" type="checkbox"/>	RADAR FIX (S6 L14 CE 16)		8		INDEPENDENT OBSERVER	
4		PILOT FIX (Visual)		9		OTHER (Specify)	
5		D. R. FROM SCOPE PHOTO OTHER THAN AT ETA					
RANGE ERROR AND COURSE ERROR (Check applicable blocks and indicate nautical miles)							
(65)	OVER	(66-67) NAUTICAL MILES	(68) RIGHT	(69-70) NAUTICAL MILES	16.0		
(65)	SHORT	(66-67) NAUTICAL MILES	(68) LEFT	(69-70) NAUTICAL MILES			
(74) MISSION CLASSIFICATION (Check applicable block)							
1	<input checked="" type="checkbox"/>	ROUTINE TRAINING MISSION		4		MISSION FLOWN UNDER THE SUPERVISION OF 3908TH STRATEGIC EVALUATION SQUADRON	
2		SAC EVALUATION MISSION		5		OTHER (To be used as directed by Headquarters SAC only)	
3		SAC NAVIGATIONAL COMPETITION MISSION					
NAME, GRADE, AND AFSN OF SCORING OFFICER (FOR) F. A. MCCOY, MAJ.				SIGNATURE OF SCORING OFFICER <i>John J. Naughton</i> (OIC Air Task Rec)			
REPLOT ERROR							
ERROR OF FIXES (Indicate nautical miles)					TOTAL COMPUTATION AND PLOTING ERROR (NM)		DISTANCE BETWEEN REPLOT AND SCORED POSITIONS AT ETA (NM)
1	2	3	4	5			
REMARKS <div style="font-size: 1.2em; font-family: cursive;">No radar fix - ET Thomas - left fuel</div> <div style="margin-top: 20px;"> POSTED LEDGER <u>23 Nov</u> POSTED BOARD <u>23 Nov</u> POSTED T-12 <u>23 Nov</u> SENT TO SQ <u>23 Nov</u> </div>							
NAME, GRADE, AND AFSN OF REPLOT OBSERVER				SIGNATURE OF REPLOT OBSERVER			
NAME, GRADE, AND AFSN OF SQUADRON OBSERVER OR AUTHORIZED REPRESENTATIVE EDWARDS, JAMES T MAJ. 6646-A				SIGNATURE OF SQUADRON OBSERVER OR AUTHORIZED REPRESENTATIVE <i>James Edwards</i>			

MOTION OF BODY CORRECTION FOR (4) FOUR MINUTES OF TIME

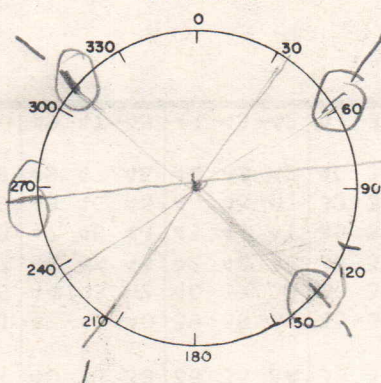
TRUE AZI- MUTH OF BODY	LATITUDE												TRUE AZI- MUTH OF BODY
	0° 8° 16°	20° 24° 28°	30° 32° 34°	36° 38° 40°	42° 44° 46°	48° 50° 52°	54° 56°	60° 64° 68° 72°	76° 80° 84°				
090	+60 +59 +57	+56 +55 +53	+52 +51 +50	+49 +47 +45	+44 +43 +42	+41 +39 +37	+35 +34	+29 +27 +23 +19	+15 +11 +6	090			
095	60 59 57	56 55 53	52 51 49	49 47 45	44 43 42	40 39 37	35 33	29 27 23 19	15 11 6	085			
100	59 59 57	56 54 52	51 51 49	48 46 45	44 43 41	39 37 36	35 33	29 26 22 18	14 10 6	080			
105	58 57 56	55 53 51	51 49 48	47 46 44	43 41 41	39 37 36	34 33	29 25 22 18	14 10 6	075			
110	56 56 54	53 52 50	49 48 47	46 44 43	42 40 39	38 36 35	33 31	28 25 21 17	13 10 6	070			
115	54 54 52	51 49 48	47 46 45	44 43 42	40 39 38	36 35 33	32 30	27 24 21 17	13 9 6	065			
120	+52 +51 +50	+49 +48 +46	+45 +44 +43	+42 +41 +40	+39 +38 +37	+35 +33 +32	+30 +29	+25 +23 +19 +16	+12 +9 +6	060			
125	49 48 47	47 45 43	42 42 41	40 39 38	36 35 34	33 31 31	29 27	24 21 18 15	12 8 5	055			
130	46 45 44	43 42 41	40 40 39	37 37 35	34 31 32	31 29 28	27 26	23 20 17 14	11 8 5	050			
135	43 42 41	40 39 37	36 36 35	34 33 32	32 31 29	29 27 26	25 24	21 19 16 13	10 7 4	045			
140	39 38 37	36 35 34	33 33 32	31 30 29	28 28 27	26 25 24	23 22	19 17 15 12	9 7 4	040			
145	35 34 33	32 32 31	29 29 28	28 27 27	25 25 24	23 23 21	20 19	17 15 13 11	8 6 4	035			
150	+30 +29 +29	+28 +28 +27	+25 +25 +25	+24 +23 +23	+22 +22 +21	+20 +19 +19	+17 +17	+15 +13 +11 +9	+7 +5 +3	030			
155	25 25 24	24 23 23	21 21 21	21 20 20	19 19 17	17 16 16	15 14	13 12 9 8	6 5 2	025			
160	20 20 20	19 19 18	17 17 17	17 16 16	15 15 14	14 13 12	12 11	11 9 7 7	5 4 2	020			
165	16 15 15	15 15 13	13 13 13	13 12 12	11 11 11	10 10 9	9 9 9	8 7 6 5	4 3 2	015			
170	11 10 10	10 9 9	9 9 8	8 8 8	8 8 7	7 7 7	7 6	5 4 4 3	3 2 1	010			
175	5 5 5	5 5 4	4 4 4	4 4 4	4 4 4	4 4 3	3 3 3	3 3 2 2	2 1 1	005			
180	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0 0	0 0 0	000			
185	-5 -5 -5	-5 -5 -4	-4 -4 -4	-4 -4 -4	-4 -4 -4	-4 -4 -3	-3 -3 -3	-3 -3 -2 -2	-2 -1 -1	355			
190	11 10 10	10 9 9	9 9 8	8 8 8	8 8 7	7 7 7	7 6	5 4 4 3	3 2 1	350			
195	16 15 15	15 15 13	13 13 13	13 12 12	11 11 11	10 10 9	9 9 9	8 7 6 5	4 3 2	345			
200	20 20 20	19 19 18	17 17 17	17 16 16	15 15 14	14 13 12	12 11	11 9 7 7	5 4 2	340			
205	25 25 24	24 23 23	21 21 21	21 20 20	19 19 17	17 16 16	15 14	13 12 9 8	6 5 2	335			
210	-30 -29 -29	-28 -28 -27	-25 -25 -25	-24 -23 -23	-22 -22 -21	-20 -19 -19	-17 -17	-15 -13 -11 -9	-7 -5 -3	330			
215	35 34 33	32 32 31	29 29 28	28 27 27	25 25 24	23 23 21	20 19	17 15 13 11	8 6 4	325			
220	39 38 37	36 35 34	33 33 32	31 30 29	28 28 27	26 25 24	23 22	19 17 15 12	9 7 4	320			
225	43 42 41	40 39 37	36 36 35	34 33 32	32 31 29	29 27 26	25 24	21 19 16 13	10 7 4	315			
230	46 45 44	43 42 41	40 40 39	37 37 35	34 33 32	31 29 28	27 26	23 20 17 14	11 8 5	310			
235	49 48 47	47 45 43	42 42 41	40 39 38	36 35 34	33 31 31	29 27	24 21 18 15	12 8 5	305			
240	-52 -51 -50	-49 -48 -46	-45 -44 -43	-42 -41 -40	-39 -38 -37	-35 -33 -32	-30 -29	-25 -23 -19 -16	-12 -9 -6	300			
245	54 54 52	51 49 48	47 46 45	44 43 42	40 39 38	36 35 33	32 30	27 24 21 17	13 9 6	295			
250	56 56 54	53 52 50	49 48 47	46 44 43	42 40 39	38 36 35	33 31	28 25 21 17	13 10 6	290			
255	58 57 56	55 53 51	51 49 48	47 46 44	43 41 41	39 37 36	34 33	29 25 22 18	14 10 6	285			
260	59 59 57	56 54 52	51 51 49	48 46 45	44 43 41	39 37 36	35 33	29 26 22 18	14 10 6	280			
265	60 59 57	56 55 53	52 51 49	49 47 45	44 43 42	40 39 37	35 33	29 27 23 19	15 11 6	275			
270	-60 -59 -57	-56 -55 -53	-52 -51 -50	-49 -47 -45	-44 -43 -42	-41 -39 -37	-35 -34	-29 -27 -23 -19	-15 -11 -6	270			

HO 249 PRECOMPUTATION - STARS

DEVIATION CHECK

TIME _____
 BODY _____
 GHA _____
 LONG ^{-W}/_{+E} _____ LAT _____
 LHA _____
 ZN _____ HC _____
 TR. H _____
 AT _____ DEV_C _____
 N₁ _____ DEV_C _____

STAR SELECTION BY AZIMUTH



DATE 18 NOV. 54
 SOLUTION TIME 22:55
 DR { LAT 34-40N
 LONG 02 58 W
 GHA 39 56
 CORR 1 15
 GHA γ CORR 41 11
 $\pm 360^\circ$ IF NEC 41-11
 ASSUM LONG ^{-W}/_{+E} 03-11 W
 LHA 38-00
 ASSUM LAT 35 N

	BODY # 1	BODY # 2	BODY # 3
TRACK	<u>074</u>	<u>074</u>	<u>074</u>
ZN	<u>058</u>	<u>131</u>	<u>269</u>
ZN-TR	<u>016</u>	<u>057</u>	<u>195</u>

LAT 35 N
 GS 430

BODY	CAPPELLA	Rigel	Alph	POLARIS
MOTION OF BODY	<u>+61</u>	<u>+59</u>	<u>-72</u>	<u>0</u>
MOTION OF OBS	<u>+42</u>	<u>+23</u>	<u>-42</u>	
TOT ADJ	<u>+103</u>	<u>+82</u>	<u>-114</u>	
ADJ	<u>+17</u>	<u>+14</u>	<u>-19</u>	

SCRATCHWORK

TIME OF HS	<u>22:49</u>	<u>22:43</u>	<u>22:55</u>	
HS				
SEXTANT CORR				
REFR CORR				
ACC CORR				
HO	<u>56-10</u>	<u>30 26</u>	<u>58 18</u>	
ADJ	<u>+1-43</u>	<u>+2-44</u>		
ADJ HO	<u>57 53</u>	<u>33 10</u>	<u>58 18</u>	
HC	<u>57 49</u>	<u>32 32</u>	<u>58 36</u>	
INT	<u>04</u>	<u>38</u>	<u>18</u>	
ZN	<u>058</u>	<u>131</u>	<u>269</u>	
POL CORR				
LAT				<u>360°</u>

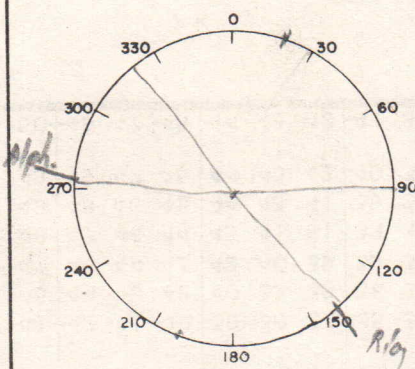
CORIOLIS AND RHUMBLINE CORR 7R NM R OR L
 TABLE IV A PRECESSION AND NUTAT CORR** NM ODIR
 ** FOR ALL PRACTICAL PURPOSES CAN BE DISREGARDED UNTIL YEAR 1956

HO 249 PRECOMPUTATION - STARS

DEVIATION CHECK

TIME _____
 BODY _____
 GHA _____
 LONG -W _____ +E _____ LAT _____
 LHA _____
 ZN _____ HC _____
 TR. H _____
 A_T _____ DEV_C _____
 N₁ _____ DEV_C _____

STAR SELECTION BY AZIMUTH



DATE 18 NOV 54
 SOLUTION TIME 23:25
 DR { LAT 35-45 N
 LONG 01-18 E
 GHA ✓ 47 28
 CORR 1 15
 GHA ✓ CORR _____
 +360° IF NEC 48 43
 ASSUM LONG -W +E 01 17 E
 LHA 50 00
 ASSUM LAT 36 N

	BODY # 1	BODY # 2	BODY # 3
TRACK	<u>074</u>	<u>074</u>	<u>074</u>
ZN	<u>143</u>	<u>027</u>	<u>274</u>
ZN-TR	<u>69</u>	<u>47</u>	<u>200</u>

LAT 36 N

GS 430

BODY	<u>Rigel</u>	<u>Dubhe</u>	<u>Alph</u>	POLARIS
MOTION OF BODY	<u>+42</u>	<u>+31</u>	<u>-70</u>	0
MOTION OF OBS	<u>+15</u>	<u>+30</u>	<u>-40</u>	
TOT ADJ	<u>+57</u>	<u>+61</u>	<u>-110</u>	
ADJ	<u>+9 1/2</u>	<u>+10</u>		

SCRATCHWORK

TIME OF HS	<u>23:13</u>	<u>23:19</u>	<u>23:25</u>	
HS				
SEXTANT CORR				
REFR CORR				
ACC CORR				
HO	<u>34 43</u>	<u>19-34</u>		
ADJ	<u>+1-54</u>	<u>+1-01</u>		
ADJ HO	<u>38 37</u>	<u>20 35</u>	<u>48 40</u>	
HC	<u>38 27</u>	<u>20 55</u>	<u>48 52</u>	
INT	<u>10</u>	<u>20</u>	<u>12</u>	
ZN	<u>143</u>	<u>027</u>	<u>274</u>	

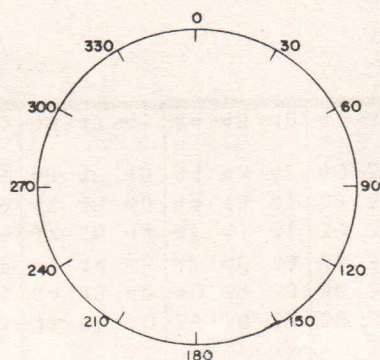
CORIOLIS AND RHUMBLINE CORR 7R NM R OR L
 TABLE IV A PRECESSION AND NUTAT CORR** NM ODIR
 ** FOR ALL PRACTICAL PURPOSES CAN BE DISREGARDED UNTIL YEAR 1956

HO 249 PRECOMPUTATION - STARS

DEVIATION CHECK

TIME _____
 BODY _____
 GHA _____
 LONG -W _____ +E _____ LAT _____
 LHA _____
 ZN _____ HC _____
 TR. H _____
 A_T _____ DEV_C _____
 N₁ _____ DEV_C _____

STAR SELECTION BY AZIMUTH



DATE 18 NOV. 54
 SOLUTION TIME 23:55
 DR { LAT 36-32N
 LONG 05-35E
 GHA 54 59
 CORR 1 15
 GHA γ CORR _____
 $\pm 360^\circ$ IF NEC 56 14
 ASSUM LONG -W +E 05 46 E
 LHA 62-00
 ASSUM LAT 37N

	BODY # 1	BODY # 2	BODY # 3
TRACK	<u>074</u>	<u>074</u>	<u>074</u>
ZN	<u>158</u>	<u>031</u>	<u>279</u>
ZN-TR	<u>84</u>	<u>43</u>	<u>205</u>

LAT 37N

GS 430

BODY	<u>Rigel</u>	<u>Deneb</u>	<u>Alph.</u>	POLARIS
MOTION OF BODY	<u>+26</u>	<u>+35</u>	<u>-68</u>	0
MOTION OF OBS	<u>+8</u>	<u>+31</u>	<u>-39</u>	
TOT ADJ	<u>+34</u>	<u>+66</u>	<u>-107</u>	
ADJ	<u>+53</u>	<u>+11</u>		

SCRATCHWORK

TIME OF HS	<u>23:43</u>	<u>23:49</u>	<u>23:55</u>	
HS				
SEXTANT CORR				
REFR CORR				
ACC CORR				
HO	<u>41 30</u>	<u>25 00</u>		
ADJ	<u>+1-08</u>	<u>+1 06</u>		
ADJ HO	<u>42 38</u>	<u>26 06</u>	<u>39 14</u>	
HC	<u>42 18</u>	<u>26 27</u>	<u>39 25</u>	
INT	<u>20</u>	<u>21</u>	<u>11</u>	
ZN	<u>158</u>	<u>031</u>	<u>279</u>	
POL CORR				
LAT				<u>360°</u>

CORIOLIS AND RHUMBLINE CORR 2R NM R OR L
 TABLE IV A PRECESSION AND NUTAT CORR** NM O DIR

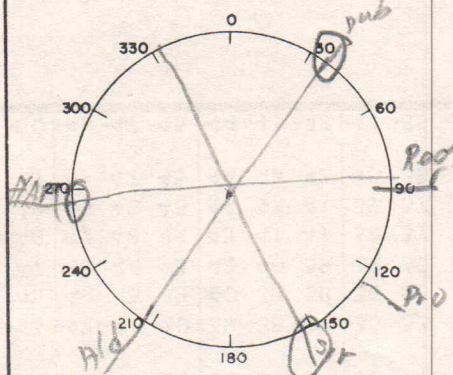
** FOR ALL PRACTICAL PURPOSES CAN BE DISREGARDED UNTIL YEAR 1956

HO 249 PRECOMPUTATION - STARS

DEVIATION CHECK

TIME _____
 BODY _____
 GHA _____
 LONG -W _____ LAT _____
 LHA _____
 ZN _____ HC _____
 TR. H _____
 AT _____ DEV_C _____
 N₁ _____ DEV_C _____

STAR SELECTION BY AZIMUTH



DATE 19 NOV. 54
 SOLUTION TIME 01:14
 DR { LAT 36-10
 LONG 03-42 E
 GHA ✓ _____
 CORR _____
 GHA ✓ CORR _____
 +360° IF NEC 76 02
 ASSUM LONG -W +E 03 58 E
 LHA 80-00
 ASSUM LAT 36 N

	BODY # 1	BODY # 2	BODY # 3
TRACK	<u>254</u>	<u>254</u>	<u>254</u>
ZN	<u>156</u>	<u>034</u>	<u>267</u>
ZN-TR	<u>98</u>	<u>220</u>	<u>13</u>

LAT 36 N

GS 410

BODY	Sirius	Dubhe	Hamal	POLARIS
MOTION OF BODY	<u>+28</u>	<u>+38</u>	<u>-70</u>	<u>0</u>
MOTION OF OBS	<u>-6</u>	<u>-31</u>	<u>+40</u>	
TOT ADJ	<u>+22</u>	<u>+7</u>	<u>-30</u>	<u>4</u>
ADJ	<u>+33</u>	<u>+1</u>	<u>-5</u>	<u>1</u>

SCRATCHWORK

CORIOLIS AND RHUMBLINE CORR 7 R NM R OR L
 TABLE IV A PRECESSION AND NUTAT CORR ** NM DIR
 ** FOR ALL PRACTICAL PURPOSES CAN BE DISREGARDED
 UNTIL YEAR 1956

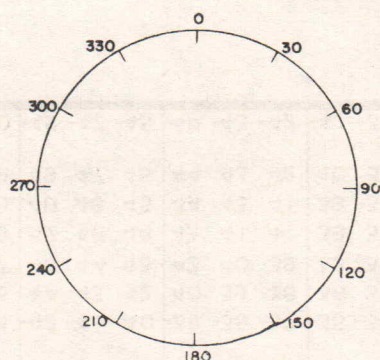
TIME OF HS	<u>01:08</u>	<u>01:02</u>	<u>01:14</u>	
HS				
SEXTANT CORR				
REFR CORR				
ACC CORR				
HO	<u>33 14</u>	<u>33 00</u>		
ADJ	<u>+22</u>	<u>+14</u>	<u>—</u>	
ADJ HO	<u>33-36</u>	<u>33-14</u>	<u>46-15</u>	
HC	<u>33-47</u>	<u>33-24</u>	<u>46-09</u>	
INT	<u>11</u>	<u>10</u>	<u>6</u>	T
ZN	<u>156</u>	<u>034</u>	<u>267</u>	LAT
				<u>360°</u>

HO 249 PRECOMPUTATION - STARS

DEVIATION CHECK

TIME _____
 BODY _____
 GHA _____
 LONG -W _____ +E _____ LAT _____
 LHA _____
 ZN _____ HC _____
 TR. H _____
 AT _____ DEV_C _____
 N1 _____ DEV_C _____

STAR SELECTION BY AZIMUTH



DATE 19 NOV.
 SOLUTION TIME 01:44
 DR { LAT 35-20 N
 LONG 00-25 W
 GHA ✓
 CORR _____
 GHA ✓ CORR _____
 +860° IF NEC 83 33
 ASSUM LONG W 00 33 W
 LHA 83-00
 ASSUM LAT 35 N

	BODY # 1	BODY # 2	BODY # 3
TRACK	<u>254</u>	<u>254</u>	<u>254</u>
ZN	<u>034</u>	<u>159</u>	<u>270</u>
ZN-TR	<u>220</u>	<u>95</u>	<u>16</u>

LAT 35 ←
 GS 410 ←

BODY	Dubhe	Sirius	HAMA	POLARIS
MOTION OF BODY	<u>+40</u>	<u>+25</u>	<u>-71</u>	0
MOTION OF OBS	<u>-31</u>	<u>-4</u>	<u>+40</u>	
TOT ADJ	<u>+9</u>	<u>+21</u>	<u>-31</u>	<u>4</u>
ADJ	<u>+1 1/2</u>	<u>+3 1/2</u>	<u>-5</u>	<u>1</u>

SCRATCHWORK

TIME OF HS	<u>01:32</u>	<u>01:38</u>	<u>01:44</u>	
HS				
SEXTANT CORR				
REFR CORR				
ACC CORR				
HO	<u>33 52</u>	<u>35 27</u>		
ADJ	<u>+18</u>	<u>+21</u>	<u>—</u>	
ADJ HO	<u>34 10</u>	<u>35 48</u>	<u>43 41</u>	
HC	<u>33 56</u>	<u>35 39</u>	<u>43 45</u>	POL CORR
INT	<u>14</u>	<u>09</u>	<u>4</u>	LAT
ZN	<u>034</u>	<u>159</u>	<u>270</u>	<u>360°</u>

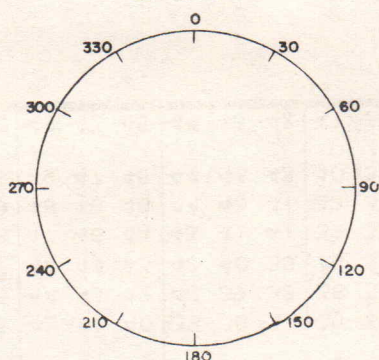
CORIOLIS AND RHUMBLINE CORR 7R NM R OR L
 TABLE IV A PRECESSION AND NUTAT CORR** NM O DIR
 ** FOR ALL PRACTICAL PURPOSES CAN BE DISREGARDED UNTIL YEAR 1956

HO 249 PRECOMPUTATION - STARS

DEVIATION CHECK

TIME _____
 BODY _____
 GHA _____
 LONG ^{-W}/_{+E} _____ LAT _____
 LHA _____
 ZN _____ HC _____
 TR. H _____
 A_T _____ DEV_C _____
 N₁ _____ DEV_C _____

STAR SELECTION BY AZIMUTH



DATE 19 Nov. 54
 SOLUTION TIME 02:14
 DR { LAT 34-14
 LONG 04-20W
 GHA ✓ _____
 CORR _____
 GHA ✓ CORR _____
 +360° IF NEC 91 05
 ASSUM LONG ^{-W}/_{+E} 04 05 W
 LHA 87-00
 ASSUM LAT 34 N

	BODY # 1	BODY # 2	BODY # 3
TRACK	<u>254</u>	<u>254</u>	<u>254</u>
ZN	<u>034</u>	<u>163</u>	<u>273</u>
ZN-TR	<u>220</u>	<u>91</u>	<u>19</u>

LAT 34 ←

GS 410 ←

BODY	Dubhe	Sirius	Hama	POLARIS
MOTION OF BODY	<u>+41</u>	<u>+21</u>	<u>-72</u>	0
MOTION OF OBS	<u>-31</u>	<u>-1</u>	<u>+38</u>	
TOT ADJ	<u>+10</u>	<u>+20</u>	<u>-34</u>	<u>4</u>
ADJ	<u>+1 2/3</u>	<u>+3 1/3</u>	<u>-5 2/3</u>	<u>1</u>

SCRATCHWORK

TIME OF HS	<u>02:02</u>	<u>02:08</u>	<u>02:14</u>	
HS				
SEXTANT CORR				
REFR CORR				
ACC CORR				
HO	<u>34 24</u>	<u>37 09</u>		
ADJ	<u>+20</u>	<u>+20</u>		
ADJ HO	<u>34 44</u>	<u>37 29</u>	<u>40 31</u>	
HC	<u>34 58</u>	<u>37 40</u>	<u>40 25</u>	
INT	<u>14</u>	<u>11</u>	<u>06</u>	
ZN	<u>034</u>	<u>163</u>	<u>273</u>	
				POL CORR
				LAT
				360°

CORIOLIS AND RHUMBLINE CORR 7R NM R OR L
 TABLE IV A PRECESSION AND NUTAT CORR** NM ODIR
 ** FOR ALL PRACTICAL PURPOSES CAN BE DISREGARDED UNTIL YEAR 1956